



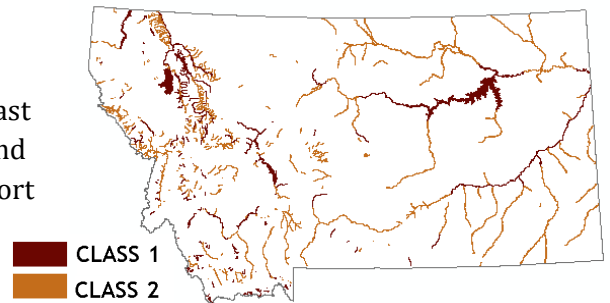
Montana Fish, Wildlife & Parks

Crucial Areas Assessment



GAME FISH LIFE HISTORY

SUMMARY: This layer depicts habitats that support at least one of 43 recognized game fish species during essential and important life history stages, including habitats that support spawning, rearing, and are a source of thermal refuge during seasonal periods of stress.



MEASUREMENT UNIT: River segments for flowing water and entire waterbody for lakes/reservoirs. River segments are uniquely identified by river mile and latitude/longitude.

DATA SOURCE(S) / QUALITY: Montana, Fish, Wildlife & Parks (FWP) biologists' expert knowledge, supported by survey data from the Montana Fisheries Information System (MFISH)

DATA SOURCES	
<input checked="" type="checkbox"/>	Survey data – counts or estimates
<input checked="" type="checkbox"/>	Survey data – categorical (e.g. presence/absence)
<input checked="" type="checkbox"/>	Expert opinion based on observation
DATA EXTRAPOLATION TECHNIQUE USED	
<input type="checkbox"/>	None
<input type="checkbox"/>	Modeling of habitat-species associations (deductive)
<input type="checkbox"/>	Statistical modeling (inductive)
<input checked="" type="checkbox"/>	Extrapolation to habitat unit (e.g. stream section)
<input checked="" type="checkbox"/>	Extrapolation based on expert opinion

(<http://fwp.mt.gov/fishing/mFish/>) and telemetry, tagging, redd count, and creel data. Fisheries surveys conducted by Montana Fish, Wildlife & Parks and collector permit holders from state and federal agencies and non-governmental Organizations, 1998 - present.

METHODS: Habitats or locations where fish congregate to complete important, often limiting, life history strategies such as

spawning, rearing, or seeking thermal refuge are considered life history support areas. These life history support areas can be classified by their level of importance to the associated sport fish population as either essential or important. We asked local FWP biologists to delineate and designate life history support Areas by interpreting a combination of survey, telemetry, tagging, redd count, or creel data. We defined **essential habitat** as spawning, rearing, and thermal refuge habitats for migratory sport fish species that, if lost, would severely impact the associated sport fishery for that species. **Important habitats** are defined as spawning, rearing, and thermal refuge areas for migratory sport fish that cumulatively benefit the associated sport fishery. Impacts to these habitats would result in declines in abundance or distribution of the associated sport fishery for that species, however, the declines would not be as severe as losses to essential habitats.

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FINAL CATEGORIZATION: We categorized life history support areas for maintaining an associated sport fishery as either one of two categories: essential or important. Essential habitats were chosen as the most important category of life history support areas. These areas, as defined above, often limit the production and maintenance of many sport fisheries and, if lost, would severely impact an associated sport fishery for many species. Important habitats, as defined above, are shown as highly important, however, they are somewhat less important than essential habitats in that losses to one of these habitats may not result in severe population level declines. Cumulatively, however, these areas are highly beneficial to the overall maintenance of sport fisheries across the State.

CLASS	CATEGORY	RIVER MILES*	# LAKES*
1	Essential Habitat	2213 (24%)	11 (58%)
2	Important Habitat	7007 (76%)	8 (42%)

*Percentages associated with rated streams only.

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